

CLAIMS

1. A method of forming a relational database, comprising

mapping a corresponding unique key to each tree component of an Extensible Markup Language (XML) document, the mapping including forming each of the corresponding unique
5 keys as associated tree strings, each of the associated tree strings including in corresponding hierarchical order derived from the tree components a parent, a child, and a descriptor, the parent being an element, the child being an attribute, and the descriptor being text;

assigning a qualifier to the child as warranted that has a possibility of repeating with another child sharing the parent in common; and

10 assigning a further qualifier to the descriptor as warranted that has a possibility of repeating with another descriptor sharing the child in common.

2. A method as in claim 1, wherein the descriptor is selected from a group consisting of
parsed character data and text signifying an encounter with a CDATA section, the CDATA
section being a text node based on which a parser ignores any XML parsing instructions
15 encountered within the text node.

3. A method as in claim 1, further comprising reconstructing the XML document to have the
tree components based on the mapping, the reconstructing including interrogating each data row
of the tree strings, and creating appropriate objects that correspond to each of the data rows.

4. A relational database structure, comprising

a database that contains corresponding unique keys mapped to tree components of an Extensible Markup Language (XML) document, each of the corresponding unique keys being associated with tree strings, each of the associated tree strings including in corresponding

5 hierarchical order derived from the components a parent, a child, and a descriptor, the parent being an element, the child being an attribute, and the descriptor being text;

a qualifier assigned to the child as warranted that has a possibility of repeating with another child sharing the parent in common; and

10 a further qualifier assigned to the descriptor as warranted that has a possibility of repeating with another descriptor sharing the child in common.

5. A relational database as in claim 4, wherein the descriptor is selected from a group consisting of parsed character data and text signifying an encounter with a CDATA section, the CDATA section being a text node based on which a parser ignores any XML parsing instructions encountered within the text node.

15 6. A relational database as in claim 4, wherein the tree strings are arranged to enable reconstruction of the XML document so as to have the tree components based on the corresponding unique keys mapped to the tree components, the reconstruction including an interrogation of each data row of the tree strings and a creation of appropriate objects that

Region	Year	Population	Area	Population Density
North America	1950	150,000,000	17,000,000	8.8
Europe	1950	500,000,000	10,000,000	50.0
Asia	1950	1,000,000,000	30,000,000	33.3
Africa	1950	200,000,000	30,000,000	6.7
South America	1950	100,000,000	17,000,000	5.9
Oceania	1950	30,000,000	10,000,000	3.0
World	1950	2,500,000,000	100,000,000	25.0
North America	2000	300,000,000	17,000,000	17.6
Europe	2000	700,000,000	10,000,000	70.0
Asia	2000	2,000,000,000	30,000,000	66.7
Africa	2000	800,000,000	30,000,000	26.7
South America	2000	300,000,000	17,000,000	17.6
Oceania	2000	40,000,000	10,000,000	4.0
World	2000	6,000,000,000	100,000,000	60.0